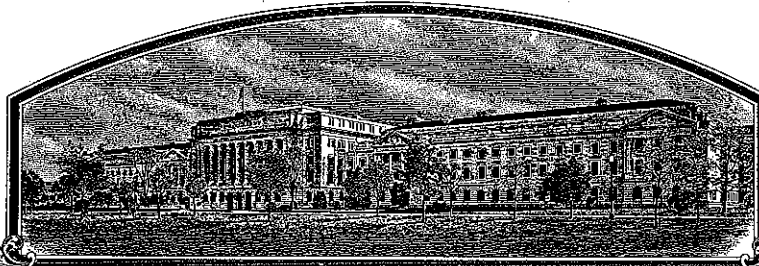


No.

200500053



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

D&H Technology Holding Company, LLC

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

COTTON

'DP 543 BGII/RR'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this fifteenth day of June, in the year two thousand and five.

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

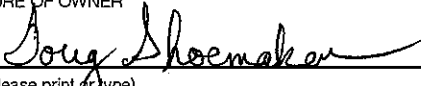
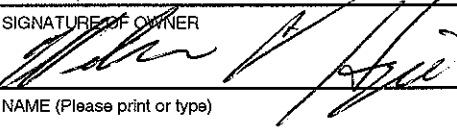
U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY DIVISION - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER D&PL TECHNOLOGY HOLDING COMPANY, LLC.		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME 03Q301DR		3. VARIETY NAME DP 543 BGII/RR	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) PO Box 157 100 Main Street Scott, Mississippi 38772 USA		5. TELEPHONE (include area code) (662) 742-4141		PVPO NUMBER 200500053	
		6. FAX (include area code) (662) 742-3182		FILING DATE DECEMBER 30, 2004	
7. IF THE OWNER IS NOT A "PERSON" GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) Limited Liability Company		8. IF INCORPORATED, GIVE STATE OF INCORPORATION Delaware		9. DATE OF INCORPORATION February 29, 1996	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) Delta and Pine Land Company Kelly Casavechia P.O. Box 157 Scott, MS 38772				FILING AND EXAMINATION FEE: \$ 3,652.00 DATE 12/30/04 CERTIFICATION FEE: \$ 432.00 DATE 05/13/05	
11. TELEPHONE (include area code) (662) 742-4141		12. FAX (include area code) (662) 742-3182		13. E-MAIL kelly.h.casavechia@deltaandpine.com	
				14. CROP KIND (Common Name) Cotton	
15. GENUS AND SPECIES NAME OF CROP Gossypium hirsutum		16. FAMILY NAME (Botanical) Malvaceae		17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse). a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of the Variety d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,450), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)			19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act) <input type="checkbox"/> YES (If "yes", answer items 20 and 21 below) <input checked="" type="checkbox"/> NO (If "no", go to item 22)		
			20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input type="checkbox"/> NO		
			21. IF "YES" TO ITEM 20, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED		
22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCE FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)			23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)		
24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.					
SIGNATURE OF OWNER 			SIGNATURE OF OWNER 		
NAME (Please print & type) Douglas B. Shoemaker			NAME (Please print or type) William V. Hugie		
CAPACITY OR TITLE Cotton Breeder		DATE 12/28/04		CAPACITY OR TITLE Vice President/Director of Research	
				DATE 28 DEC 04	

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (*in the sense that it will reproduce an entire plant*) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$2,705 (\$320 filing fee and \$2,385 examination fee), payable to "Treasurer of the United States" (*See Section 97.6 of the Regulations and Rules of Practice.*) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. **Retain one copy for your files.** All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. DO NOT use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$320 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvpo/pvp.htm>

ITEM

- 18a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method
(2) the details of subsequent stages of selection and multiplication;
(3) evidence of uniformity and stability; and
(4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
(1) Identify these varieties and state all differences objectively;
(2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
(3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
19. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant MAY NOT reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (*See Regulations and Rules of Practice, Section 97.103*).
22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
23. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.
21. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)

22. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

23. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

Bollgard® ; Bollgard®II and Roundup Ready® cotton

THESE SEEDS ARE COVERED UNDER U. S. PATENTS 5,633,435; 5,500,365; 5,424,200; 5,359,142; 5,352,605; 5,530,196; 5,322,938; 5,196,525; 5,188,64; 5,164,316; 4,940,835; 5,717,084; 5,728,925; 5,804,425; 5,004,863; 5,159,135; 5,338,544; 5,362,865; 5,659,122; 5,728,925; 5,880,275; 6,174,724; 6,489,5

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (*See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.*)

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center-East, Beltsville, MD 20705. Telephone: (301) 504-8089. <http://www.ams.usda.gov/lsg/seed/lsg-sd.htm>

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this collection of information is (0581-0055). The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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S&T-470 (04-01) designed by the Plant Variety Protection Office with WordPerfect 6.0a. Replaces STD-470 (02-99) which is obsolete.

EXHIBIT A

DELTA AND PINE LAND COMPANY'S APPLICATION FOR
DP 543 BGII/RR

ORIGIN AND BREEDING HISTORY

1. GENEALOGY

DP 543 BGII/RR is a Bollgard II / Roundup Ready (BGII/RR) selection of DeltaPEARL developed using a backcross breeding program. The transgenic Bt and RR genes were introduced by intercrossing two F1's derived from the crosses DeltaPEARL x DP 50BX & DeltaPEARL x NuPEARL RR. This was followed by 2 generations of backcrossing to the recurrent parent DeltaPEARL. This transgenic development program was conducted in a greenhouse environment and plants were selected for the presence of two Bt transgenes and the RR herbicide gene at all stages in the development process.

DP 543 BGII/RR donor parents were DP50 BGII and NuPearl RR with insertion event LINE 531 (commercialized under the trade name Bollgard) of construct PV-GHBK06 containing a *Bacillus thuringiensis* var. *kurstaki* pesticide protein and insertion event LINE 15985 (commercialized under the trade name Bollgard II) developed by using recombinant DNA techniques to introduce the insect protection gene cry2Ab2 from *Bacillus thuringiensis*, which encodes the protein Cry2Ab2. LINE 1445 found in DP 543 BGII/RR was developed by using recombinant DNA techniques to introduce a resistant version of the gene EPSPS which encodes the enzyme: 5-enolpyruvylshikimate-3-phosphate synthase (EPSPS). This modified EPSPS was originally isolated from the common soil borne microorganism *Agrobacterium sp.* Strain CP4 and confers to LINE 1445 resistance or tolerance to the herbicide glyphosate [formulation of glyphosate, N (phosphonomethyl) glycine] commercialized under the trade name ROUNDUP. The Monsanto Company developed all three-insertion events.

2. SELECTIONS AND MULTIPLICATION

Year	Location	Generation	Selection
1996	Goondiwindi, AU	F0	Cross made
1996/97	Australia Winter Nursery	F1	Backcross
1997	Goondiwindi, AU	F2	Backcross
1998	Goondiwindi, AU	F3	Single plants selected
1999	Goondiwindi, AU	F4	Progeny row selected
2000	Goondiwindi, AU	F5	Multiple line screen
2001	Goondiwindi, AU	F6	Two lines selected
2002	Transgenic Increase – Scott, Ms	F7	Two lines tested
2002/2003	Foundation Increase – Costa Rica	F8	Bulked two lines
2003	Foundation Increase	F9	Bulked
2004	Production Increase	F10	Bulked

A BC2F2 population was planted into the field and selected for bacterial blight resistance and expression of the two Bt proteins and the RR herbicide tolerance trait. Reselection continued through the F3, F4, F5 & F6 generations. This selection process took place in Goondiwindi, QLD. These releases were made using the breeder code number (03Q301DR). This selection was introduced into the U.S. from Australia and the F7 thru F10 generations were grown as seed increases.

The variety has been maintained in its current form for the last 2 years. It is propagated by seed. No off-types were observed in this variety during the final seed increase generations.

Selection criteria used in the F2 and F3 generations included glyphosate resistance, agronomic traits (plant type, plant maturity, plant height and storm resistance), lint percent and fiber quality traits (micronaire, length and strength). Selection criteria in the F4 through F6 generations included lint yield, in addition to the traits mentioned above. Transgene (BG and RR) presence and homozygosity were used as selection in the F4 thru F6 generations. In the F7 and later generations, adaptation to a range of environments was an added selection criterion.

STATEMENT ON UNIFORMITY AND STABILITY

DP 543 BGII/RR has been observed every generation since 2001 and has shown to be uniform and stable for 4 generations over 4 years. Less than 2% of the plants do not contain both the gene insertions 1445 and 531.

EXHIBIT B

**DELTA AND PINE LAND COMPANY'S APPLICATION FOR
DP 543 BGII/RR**

STATEMENT OF DISTINCTNESS

DP 543 BGII/RR is a picker-type upland variety. The picker-type varieties as a group are distinguished from stripper varieties primarily by a more open or loose boll type. The picker-type varieties are distinguished from Acala-type varieties primarily by earlier maturity, shorter fiber length and lower fiber strength.

DP 543 BGII/RR is different from many other picker-type varieties in that its plants carry the gene insertion 1445 of a construct developed by the MONSANTO COMPANY which causes these plants to be tolerant to the herbicide ROUNDUP (glyphosate) and the gene insertion 531 (Bollgard) of a construct developed by the MONSANTO COMPANY which causes these plants to be tolerant to certain lepidopteran insects as well as carrying the gene insertion event 15985 (Bollgard II) of a construct developed by the MONSANTO COMPANY which causes these plants to be tolerant to certain other lepidopteran insects.

DP 555 BG/RR was used as the most similar variety because it has many agronomic and adaptive characteristics in common with DP 543 BGII/RR. In comparing DP 543 BGII/RR to DP 555 BG/RR, the most distinguishing characteristics lint yield, lint turnout, fiber length, and fiber strength.

Novelty of DP 543 BGII/RR is claimed on the following characteristics, for which there are some significant differences from the comparison variety, at the 5% level of probability or less.

Trait	DP 543 BGII/RR	DP 555 BG/RR	Probability	Reference Table
Lint turnout	0.40	0.44	<0.0001-S	1
Fiber micronaire	4.47	4.43	0.4505-NS*	1
Fiber length	1.169	1.149	0.0299-S	1
Fiber uniformity	83.17	82.63	0.0594-NS	1
Fiber strength	31.19	30.18	0.0422-S	1

*S=Significant at the 5% level of probability or less

*NS=Not Significant at the 5% level of probability or less

Supporting Tables:

<u>Table</u>	<u>Test</u>	<u>Years</u>	<u>Locations</u>
1	Head to Head Comparisons	2003	8 tests - Beltwide
2	Mid-South Summary	2003	MidSouth Locs
3	Relative Maturity	2002-2004	Beltwide

Table 1. Head to head comparisons of DP 543BGII/RR with DP 555 BG/RR

YEAR	REG-ION	EXPT	FIELD	COUNTY	STATE	Lint Yield		Lint Percent		Micronaire		Length		Uniformity Ratio		Strength		Elongation	
						DP 543 BGII/R	DP 555 BG/RR	DP 543 BGII/R	DP 555 BG/RR	DP 543 BGII/R	DP 555 BG/RR	DP 543 BGII/R	DP 555 BG/RR	DP 543 BGII/R	DP 555 BG/RR	DP 543 BGII/R	DP 555 BG/RR	DP 543 BGII/R	DP 555 BG/RR
2003	NOSE	34HV0110	34HV0110	DARLINGTON	SC	1084	1739	0.386	0.436	4.3	4.3	1.18	1.16	84.0	83.8	32.5	32.0	11.5	11.1
2003	SOSE	34TF0204	34TF0204	TIFT	GA	1357	2249	0.399	0.438	4.3	4.1	1.16	1.14	83.5	82.2	27.9	27.2	11.7	11.5
2003	SOSE	34UN0208	34UN0208	DOOLY	GA	1277	1738	0.383	0.421	4.4	4.3	1.17	1.13	82.6	81.5	31.2	29.3	10.9	11.6
2003	SOSE	34WU0214	34WU0214	ATKINSON	MS	1155	1915	0.398	0.433	4.0	4.2	1.13	1.15	82.6	82.7	30.8	31.3	11.1	11.2
2003	SODE	34SM0406	34SM0406	BOLIVAR	MS	1815	1986	0.427	0.454	4.7	4.4	1.16	1.16	82.8	83.1	32.6	31.8	10.9	11.1
2003	SODE	34NE0408	34NE0408	TENSAS	LA	1741	2062	0.407	0.448	4.7	4.7	1.19	1.15	83.6	82.1	31.3	28.8	10.2	10.0
2003	SODE	34PB0409	34PB0409	SHARKEY	MS	1584	1793	0.405	0.446	4.5	4.5	1.19	1.17	83.4	83.0	31.9	32.1	11.0	10.8
2003	WEST	34CO0708	34CO0708	PINAL	AZ	1036	1627	0.380	0.416	5.1	5.0	1.18	1.14	83.0	82.8	31.4	29.0	10.2	10.8
Average						1381	1888	0.40	0.44	4.47	4.43	1.169	1.149	83.17	82.63	31.19	30.18	10.93	11.01
No. Tests						8		8		8		8		8		8		8	
Difference						-507		-0.04		0.04		0.020		0.54		1.01		-0.09	
F ratio - Analysis of Variance						30.063		284.9219		0.639		7.375		5.053		6.152		0.334	
Probability of difference - F test						0.000923		<0.0001		0.4505		0.0299		0.0594		0.0422		0.5817	
Wins / Losses						0 / 8		0 / 8		6 / 2		7 / 1		6 / 2		6 / 2		4 / 4	

Across Mid-South Regions 5 Locations - 2003

Xno	Rank					Turn		Mic	Len	Ur	T1	E1	Phin	Matur	So	Fo
	Sct	Wis	New	PB	PU	out										
DP 555 BG/RR	2	1	2	1	1	46.9		4.8	1.19	86	31.6	11.2	44	4.5	3.6	2.7
ST 5599 BR	1	4	1	2	2	42.9		4.8	1.20	86	32.2	11.4	44	4.7	4.2	2.2
03Q301DR	3	*	12	4	*	43.3		4.8	1.22	87	32.9	11.0	41	5.4	3.1	1.8
Mean						38.8		4.3	1.11	80	30.1	11.3	39	3.7	2.6	1.5
Detrended						No		Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No
Cv						2.2		4.4	2.5	1.3	4.8	6.1	9.7	18.3	20.0	33.9
Lsd .05						0.5		0.1	0.02	0.6	0.8	0.4	2.6	0.6	0.3	0.6
No. Reps						16		16	16	16	16	16	12	8	16	4
Heritability						0.98		0.83	0.91	0.43	0.88	0.94	0.79	0.75	0.89	0.69
R-squared						0.90		0.72	0.65	0.38	0.48	0.77	0.76	0.69	0.73	0.57

Table 4. Relative Maturity¹

Cultivar	No of data DD60's to	
	points	100 % open ²
DP 444 BG/RR	223	0.0
PM 1218 BG/RR	118	31.2
SG 215 B/RR	183	31.8
DP 424 BGII/RR	132	48.8
DP 451 B/RR	164	66.3
DP 445 BG/RR	78	68.1
DP 449 BG/RR	270	82.3
DP 458 B/RR	159	91.4
DP 655 B/RR	65	92.0
DP 455 BG/RR	61	94.5
DP 543 BGI/RR	48	95.6
DP 488 BG/RR	127	99.2
DP 555 BG/RR	266	136.5
LSD.05		27.2
¹ 2002-2004 Final Plant Maps - Beltwide		
² Degree day at 60°F. Least squares analysis of variance. Adjusted to earliest cultivar.		

Explanations:	
Lint Percent =	percentage of the seed cotton that is lint, handpicked samples
Mic =	micronaire, measure of fiber fineness (high = coarse fiber)
Len =	fiber length (inches)
Ur =	uniformity ratio, proportion of uniform length fibers
T1 =	fiber strength, grams per tex (high = stronger fiber)
E1 =	elongation, measure of fiber elasticity, (high = more elastic)
Mr =	fiber maturity ratio
Cm to FFB =	cm to first fruiting branch
FB5 cm to FFN =	cm from main stem to first fruiting node at fruiting branch 5
Seedcotton/boll =	weight of seedcotton per boll, handpicked samples
Lint/boll =	weight of lint per boll, handpicked samples
Lint Percent =	percentage of the seed cotton that is lint, handpicked samples

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Agriculture, Clearance Officer, OIRM, AG Box 7630, Jamie L. Whitten Building, Washington, D.C. 20250. When replying, refer to OMB No. 0581-0055 and form number in your letter. Under the PRA of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

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**U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705**

**EXHIBIT C
(COTTON)**

**OBJECTIVE DESCRIPTION OF VARIETY
COTTON (*Gossypium* spp.)**

NAME OF APPLICANT(S)	TEMPORARY DESIGNATION	VARIETY NAME
D&PL TECHNOLOGY HOLDING COMPANY, LLC.	03Q301DR	DP 543 BGII/RR
ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code)		FOR OFFICIAL USE ONLY
P.O. Box 157 100 N. Main Street Scott, Mississippi 38772		PVPO NUMBER 2005 000 53

Place the appropriate data that describes the varietal characteristic of this variety in the space provided. Characteristics described, including numerical measurements, should represent those that are typical for the variety. Royal Horticultural Society or any recognized color fan may be used to determine plant colors. Characters marked with an asterisk * indicate necessary characters to be measured.

SPECIFIC VARIETIES USED FOR COMPARISON AS CHECK VARIETIES IN THIS APPLICATION: Use standard regional check varieties which are adapted to your area. One of the comparison varieties must be the most similar variety used in Exhibit B.

Variety 1. DP 555 BG/RR Variety 2. _____ Variety 3. _____

***1. SPECIES:**

X *G. hirsutum* L. _____ *G. barbadense* L.

***2. AREA(S) OF ADAPTATION:** (A = Adapted, NA = Not Adapted, NT = Not Tested)

<u>A</u> Eastern	<u>A</u> Delta	<u>A</u> Central	<u>A</u> Blacklands
<u>NT</u> Plains	<u>A</u> Western	<u>A</u> Arizona	<u>A</u> San Joaquin
<u>Other (Specify):</u> _____			

3. GENERAL: Characteristics which are known to be variable but are still useful for a meaningful description of the variety.

Application Variety	Comparison Variety 1	Comparison Variety 2	Comparison Variety 3
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Plant Habit:

Spreading, Intermediate, Compact	<u>Intermediate</u>	<u>Intermediate</u>	_____	_____
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Foliage:

Sparse, Intermediate, Dense	<u>Intermediate</u>	<u>Intermediate</u>	_____	_____
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Stem Lodging:

Lodging, Intermediate, Erect	<u>Erect</u>	<u>Erect</u>	_____	_____
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Fruiting Branch:

Clustered, Short, Normal	<u>Normal</u>	<u>Normal</u>	_____	_____
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Growth:Determinate, Intermediate,
Indeterminate

___Intermediate___

___Intermediate___

Leaf Color:Greenish yellow, Light green,
Medium green, Dark green

___Light Green___

___Light Green___

Boll Shape: Length less than width,

Length equal to width,

Length more than width

Length greater

___than width___

Length greater

___than width___

Boll Breadth: Broadest at base,

Broadest at middle

___Broadest at middle___

___Broadest at middle___

***4. MATURITY:** (50 % Open bolls; Preferred method; Describe method if different method was used.)

Date of 50 % open bolls

___95.6___

___136.5___

5. PLANT:**Cm to 1st Fruiting Branch:**

(from cotyledonary node)

___NT___

___NT___

No. of Nodes to 1st Fruiting Branch:

(excluding cotyledonary node)

___NT___

___NT___

Mature Plant Height cm:

(from cotyledonary node to terminal)

___121___

___129___

***6. LEAF:** Upper most, fully expanded leaf.**Type:** Normal, Sub Okra,

Okra, Super Okra

___Normal___

___Normal___

Pubescence: Absent, Sparse,Medium, Dense **OR** Trichomes/cm²

(Bottom surface excluding veins)

___Sparse___

___Sparse___

Nectaries: Present or Absent

___Present___

___Present___

***7. STEM PUBESCENCE:**

Glabrous, Intermediate, Hairy

___Intermediate___

___Intermediate___

***8. GLANDS:** (Gossypol) Absent, Sparse, Normal, More Than Normal**Leaf:**

___Normal___

___Normal___

Stem:

___Normal___

___Normal___

Calyx Lobe: (normal is absent)

___Normal___

___Normal___

9. FLOWER:*Petals:** Cream, Yellow

___Cream___

___Cream___

Pollen: Cream, Yellow

___Cream___

___Cream___

Petal Spot: Present, Absent

___Absent___

___Absent___

***10. SEED:**

Seed Index:

(g/100 seed, fuzzy basis) 9.6 8.1 _____

Lint Index:

(g lint/100 seeds) 7.2 6.9 _____

11. BOLL:*Lint Percent:**

_____ Picked _____ Pulled _____

OR**Gin Turnout:**

___X___ Picked _____ Stripped 43.3 46.9 _____

Number of Seeds per Boll NT NT _____**Grams Seed Cotton per Boll** 5.9 5.2 _____**Number of Locules per Boll** 4-5 4-5 _____**Boll Type:**

(Stormproof, Storm Resistant, Open) Open Open _____

12. FIBER PROPERTIES:

Specify Method (HVI or other): HVI _____

*** Length:** (inches, 2.5% SL) 1.17 1.15 _____*** Uniformity:** (%) 83.17 82.63 _____*** Strength, T1** (g/tex) 31.19 30.18 _____*** Elongation, E1** (%) 10.93 11.01 _____*** Micronaire:** 4.47 4.43 _____**Fineness** (Source _____) NT NT _____**Yarn Tenacity:** (cN/tex, 27 tex) NT NT _____**Yarn Strength:** (lbs. 22's) NT NT _____**13. DISEASES:** (NT = Not Tested, S = Susceptible, MS = Moderately Susceptible, MR = Moderately Resistant, R = Resistant)_NT_ *Alternaria macrospora*

NT Fusarium Wilt

NT Anthracnose

NT Phymatotrichum Root Rot

NT Ascochyta Blight

NT *Pythium* (specify species)

NT Bacterial Blight (Race 1)

NT *Rhizoctonia solani*

NT Bacterial Blight (Race 2)

NT Southwestern Cotton Rust

NT Bacterial Blight (Race _____)

NT *Thielaviopsis basicola***13. DISEASES :** (continued)

_NT___Diplodia Boll Rot

_NT___Verticillium Wilt

_NT___Other (specify)_____

200500053

14. NEMATODES, INSECTS AND PESTS: (NT = Not Tested, S = Susceptible, MS = Moderately Susceptible, MR = Moderately Resistant, R = Resistant)

_NT___Root-Knot Nematode

_NT___Reniform Nematode

_NT___Boll Weevil

_NT___Grasshopper (specify species):_____

_R___Bollworm

_NT___Lygus (specify species):_____

_NT___Cotton Aphid

_R___Pink Bollworm

_NT___Cotton Fleahopper

_NT___Spider Mite (specify species):_____

_NT___Cotton Leafworm

_NT___Stink Bug (specify species):_____

_R___Cutworm (specify species):_____

_NT___Thrips (specify species):_____

_R___Fall Armyworm

_R___Tobacco Bud Worm

_____Other (specify):_____

15. COMMENTS: Present any additional information that cannot adequately be described in 1 through 13 which significantly distinguishes your variety.

DP 543 BGII/RR contains three proprietary genes, patented by the Monsanto Company and licensed to D&PL. One gene encodes a protein providing resistance to the herbicide glyphosate, and the two additional genes are different active Bt endotoxins.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

1. NAME OF APPLICANT(S) D&PL TECHNOLOGY HOLDING COMPANY, LLC.	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER 03Q301DR	3. VARIETY NAME DP 543 BGII/RR
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) P.O. Box 157 Scott, Mississippi 38772	5. TELEPHONE (Include area code) (662) 742-4141	6. FAX (Include area code) (662) 742-3182
7. PVPO NUMBER 2005 000 53		

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain. YES ☒ NO ☐9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country. YES ☒ NO ☐10. Is the applicant the original owner? ☒ YES ☐ NO If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☐ YES ☐ NO If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☐ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (If needed, use the reverse for extra space):

DP 543 BGII/RR contains three proprietary genes, patented by the Monsanto Company and licensed to D&PL. One gene encodes a protein providing resistance to the herbicide glyphosate (ROUNDUP®), and the two additional genes with different active Bt endotoxins (BOLLGARD® AND BOLLGARD®II).

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 6 minutes per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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